Joint Battle Management, Command & Control: Path to Interoperability

Lieutenant General Robert W. Wagner

Deputy Commander

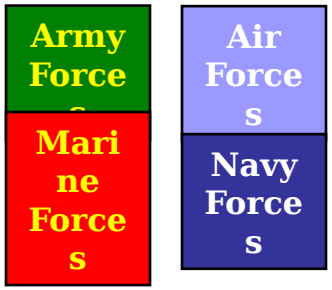
United States Joint Forces Command

“ As the battlefield becomes increasingly complex, the transformation of our nation’s military is dependent upon joint operations with assured interoperability and connectivity down to the tactical level.”

SECDEF Memo on Interoperability and Connectivity, November

Deconflict Service Forces

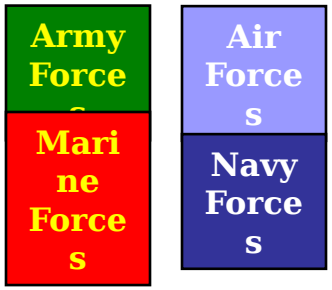
Deconflict
Service Forces



Coordinate Stitch Service Seams

Transforming the Joint Force

Deconflict Service Forces



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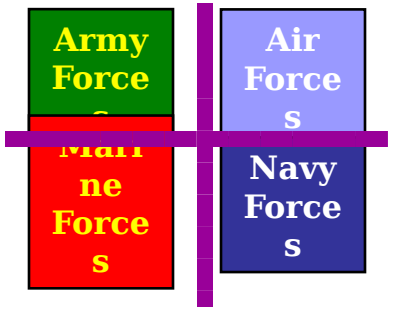

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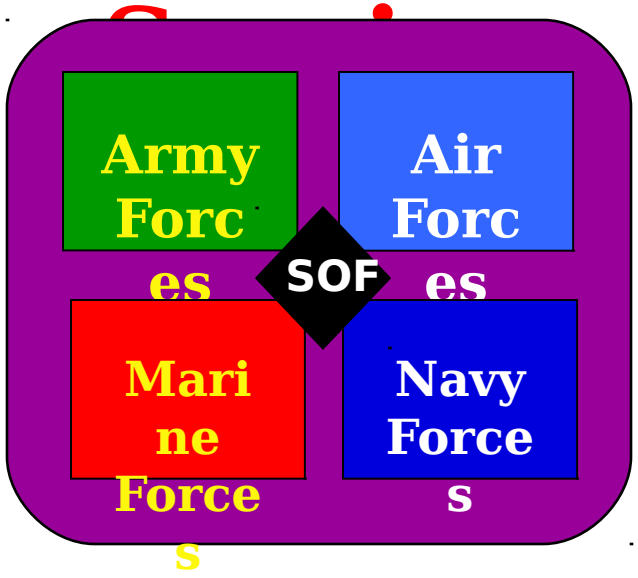

Transforming the Joint Force

Deconflict
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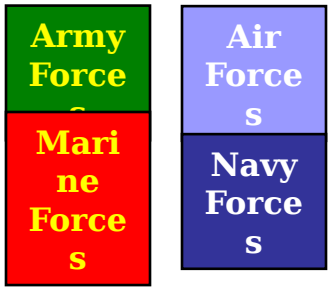

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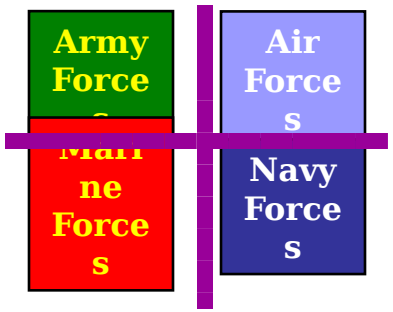
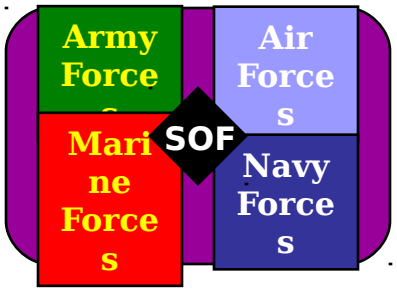


Integration
of Service Capabilities



Interdependent
Coherently Joint
Collaborative
Coordination
Effects-Based
Network Centric
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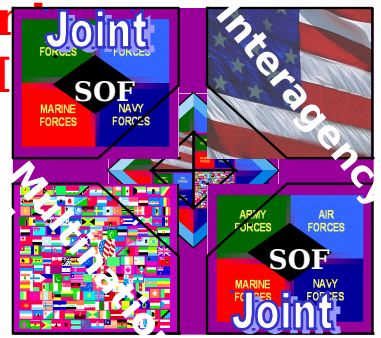
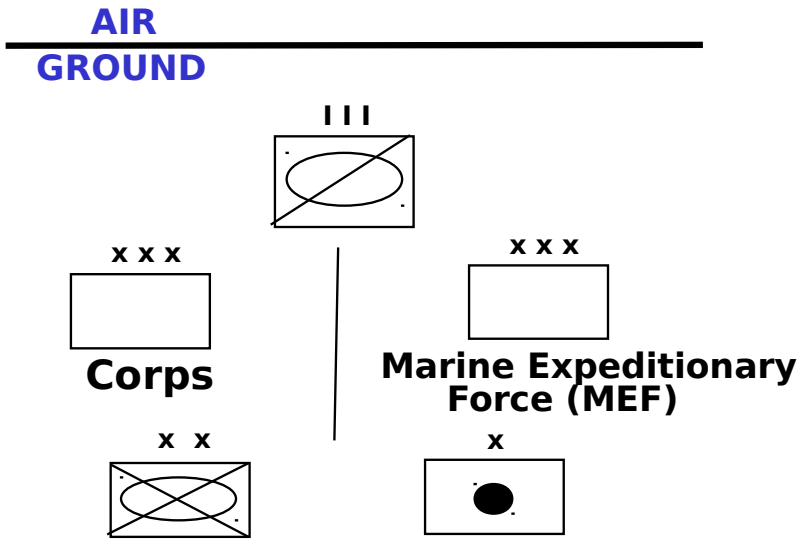


A Full Spectrum capabilities-based joint force

Conventional



Massed Forces

Deconflicted

Linearly – Sequential

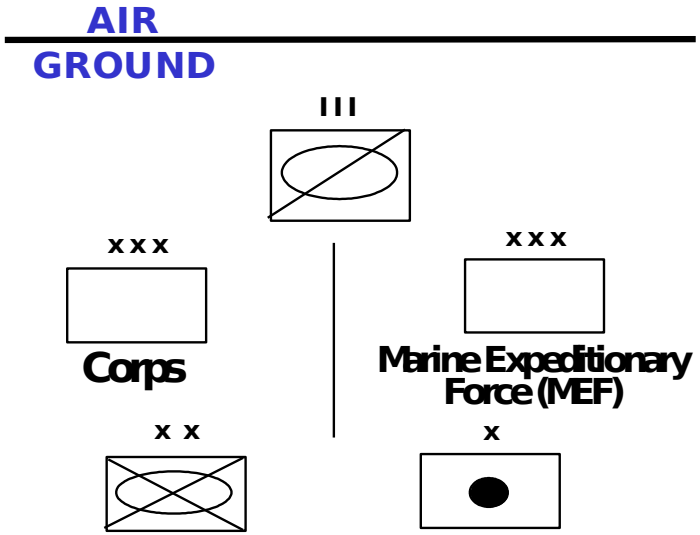
Attrition warfare

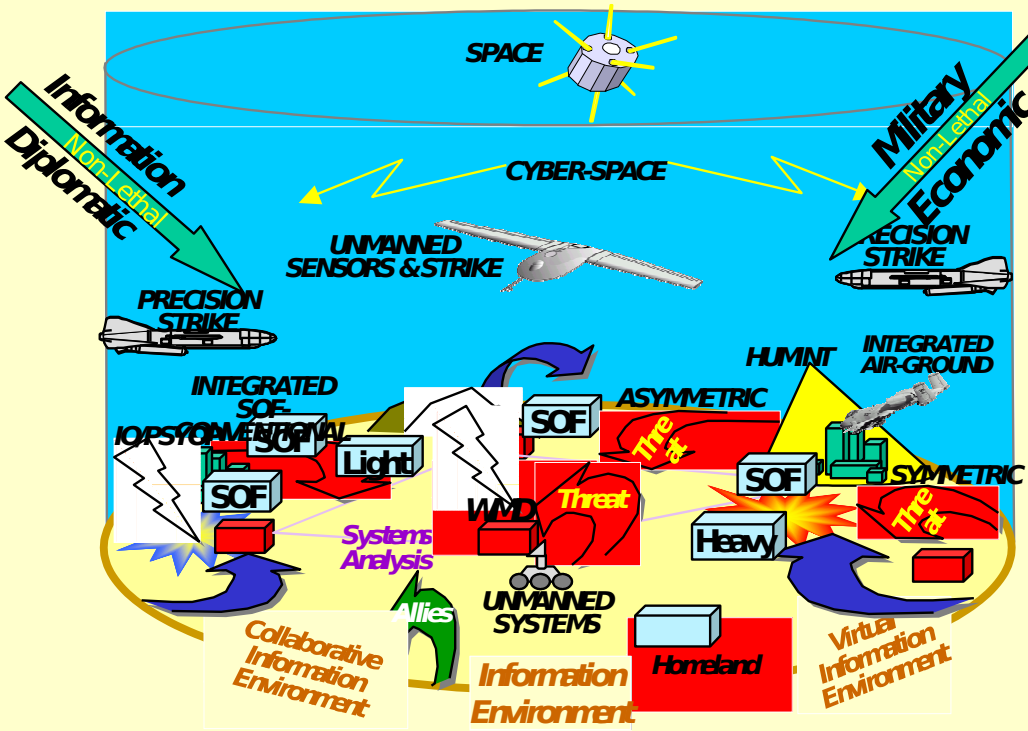
Military to Military

Independent

From Battlefield to Battlespace

Conventional





Massed Forces — **Massed effects**

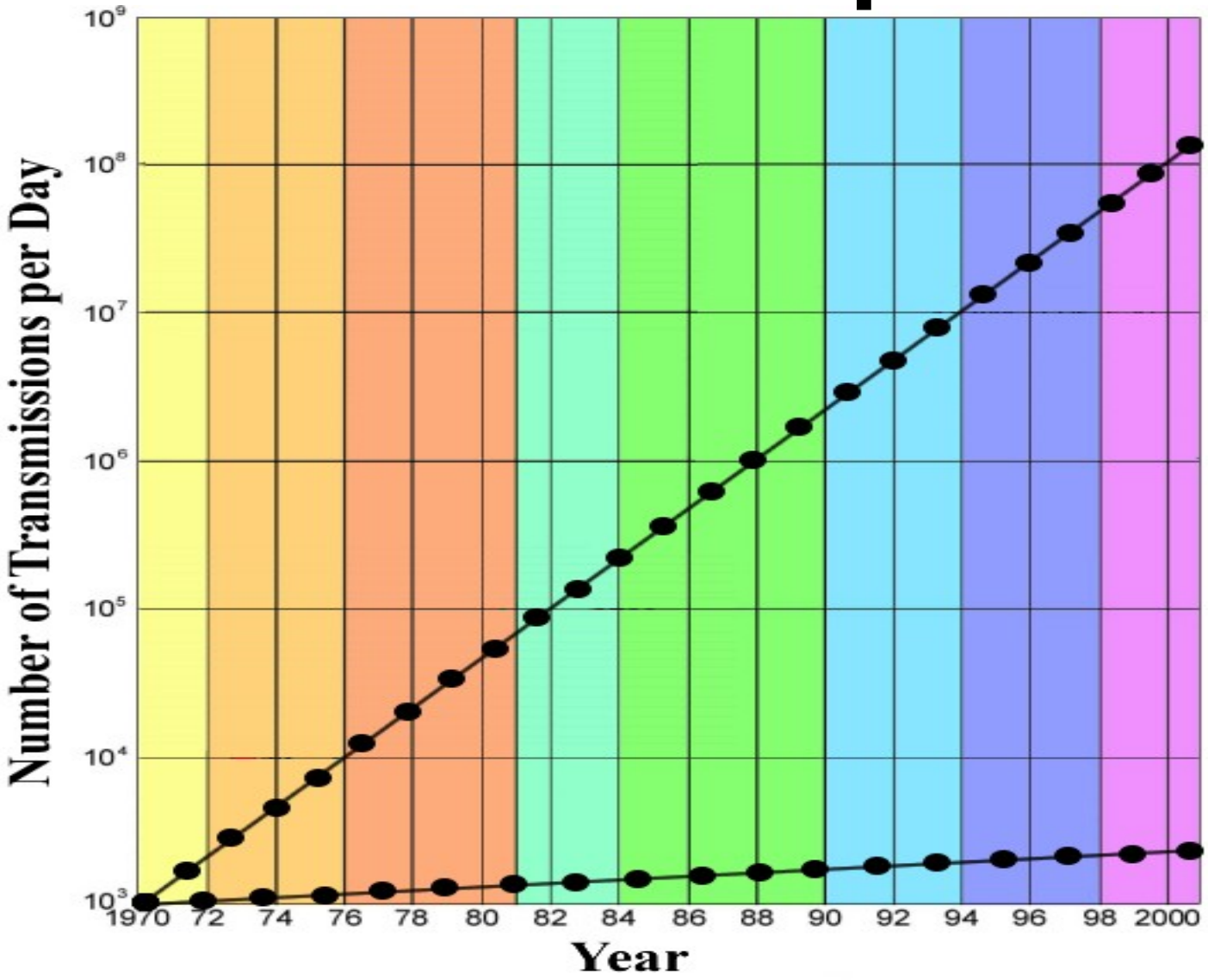
Deconflicted — **Integrated** — **Interdependent**

Linearly – Sequential space — **Simultaneous depth of**

Attrition warfare — **Rapid start/stop**

Military to Military power — **All elements of national**

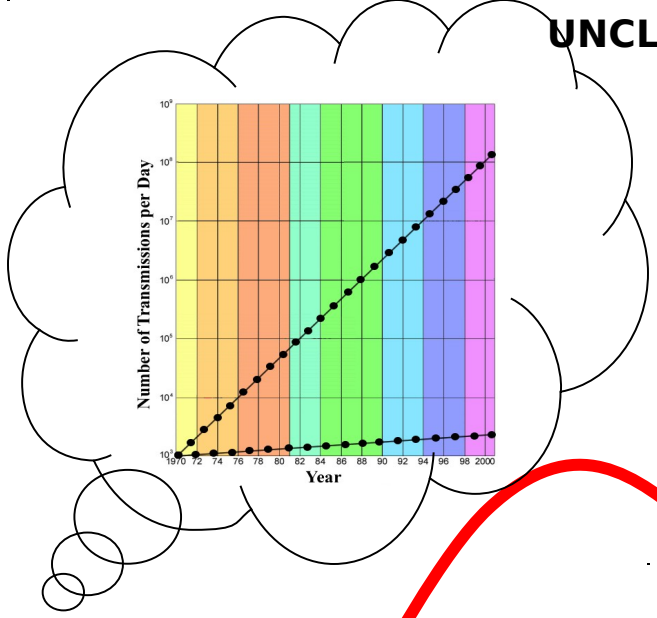
The Growing Gap



Data Transmitted

Data Analyzed

Closing the Gap



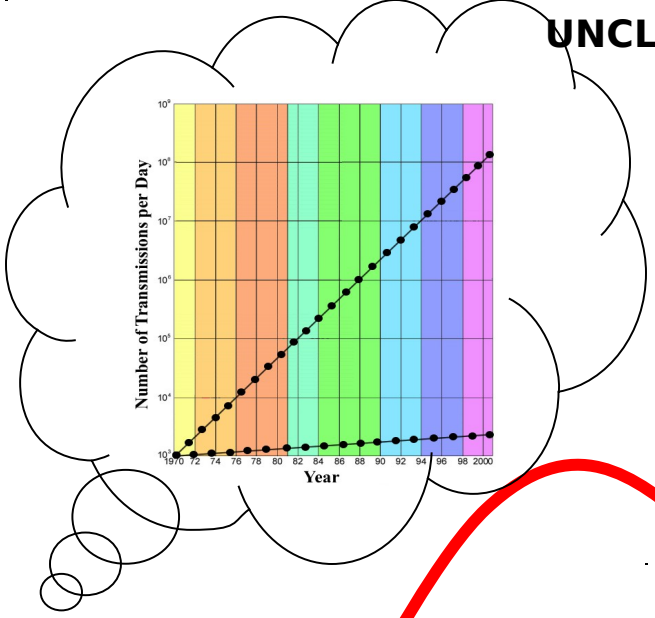
Current

Time

Research
Production

Analysis

Closing the Gap



Current

Future

Time

- Decrease Development Time
- Increase Analytical Rigor

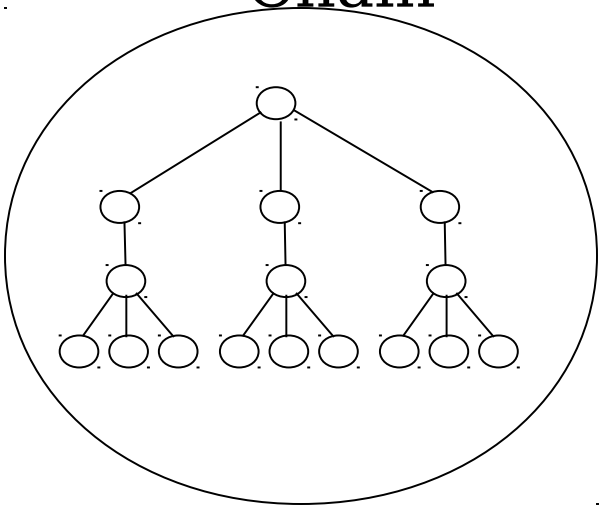
Research Production

Analysis

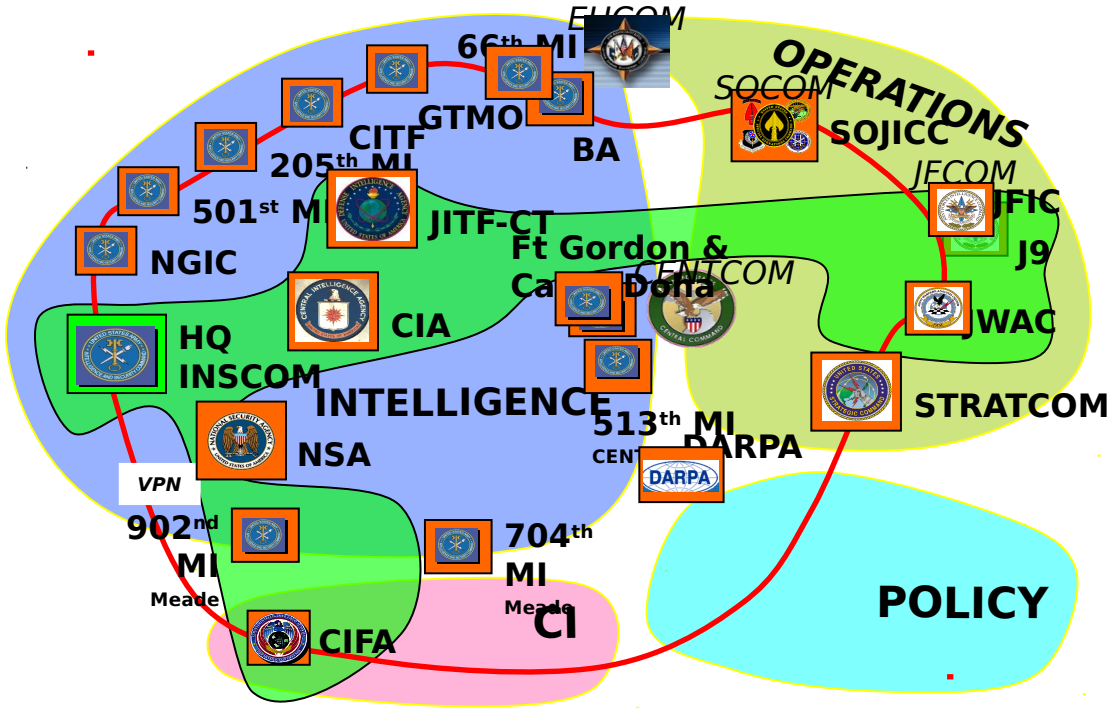
Networked / Collaborative

Decision Making

The Meeting Chain



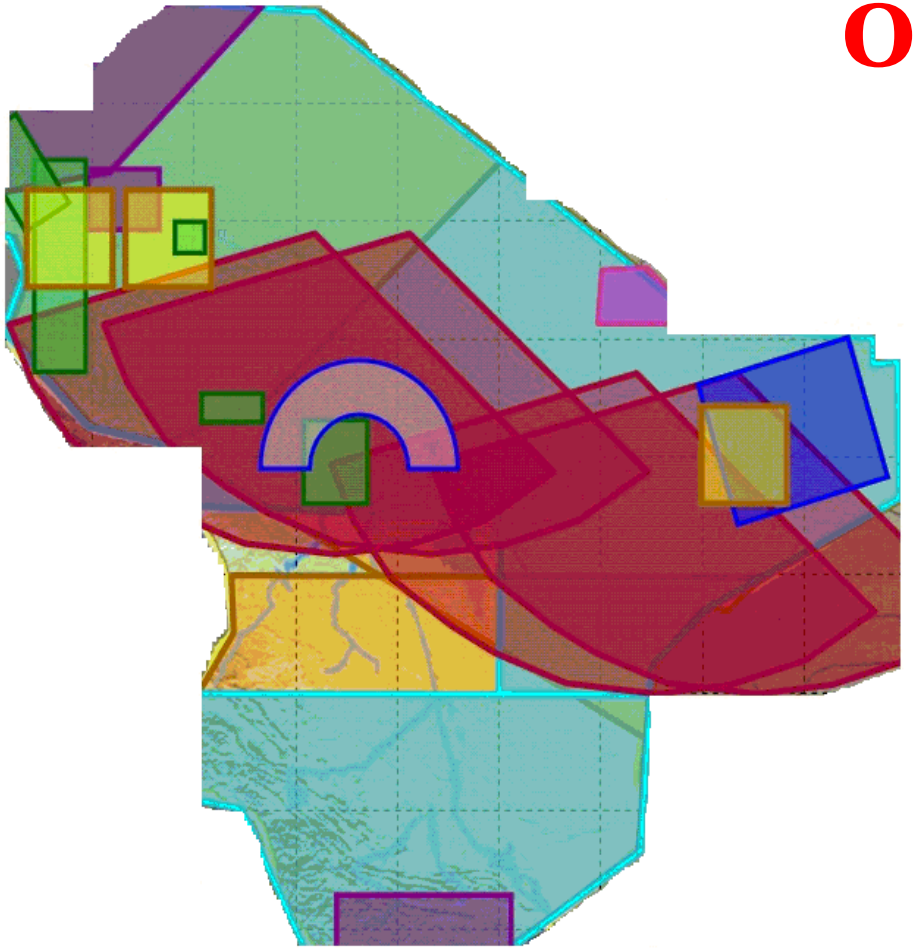
Networked



- Linear down
- Linear back
- Limited cross talk
- Partial transmission
- Slow

- Communities of Interest
- Instant Chat
- Knowledge Informed / Enabled
- First hand transmission
- Rapid

A Notional ISR Picture



Or is it?

Is it:

- One picture or many?
- Possible coverage or actual coverage?
- Is it linked and real time?
- What does it tell the Commander?

Battle Damage Assessment (BDA)

- Can it keep up with operational speed in order to inform operational decisions?
- Are assessments measured in days, hours or minutes?
- If we are uncertain, do we re-strike and/or lose momentum while we seek certainty
- How do we train to support the fluid fight?
- When conducting “effects based operations” what is “effects based BDA”
  - Is it automated? Federated? Networked?
  - Is it lethal and non-lethal
  - Does it Incorporate self assessing weapons?

Battle Effectiveness Assessment

~~Battle Damage Assessment~~ (BDA)

- Can it keep up with operational speed in order to inform operational decisions?
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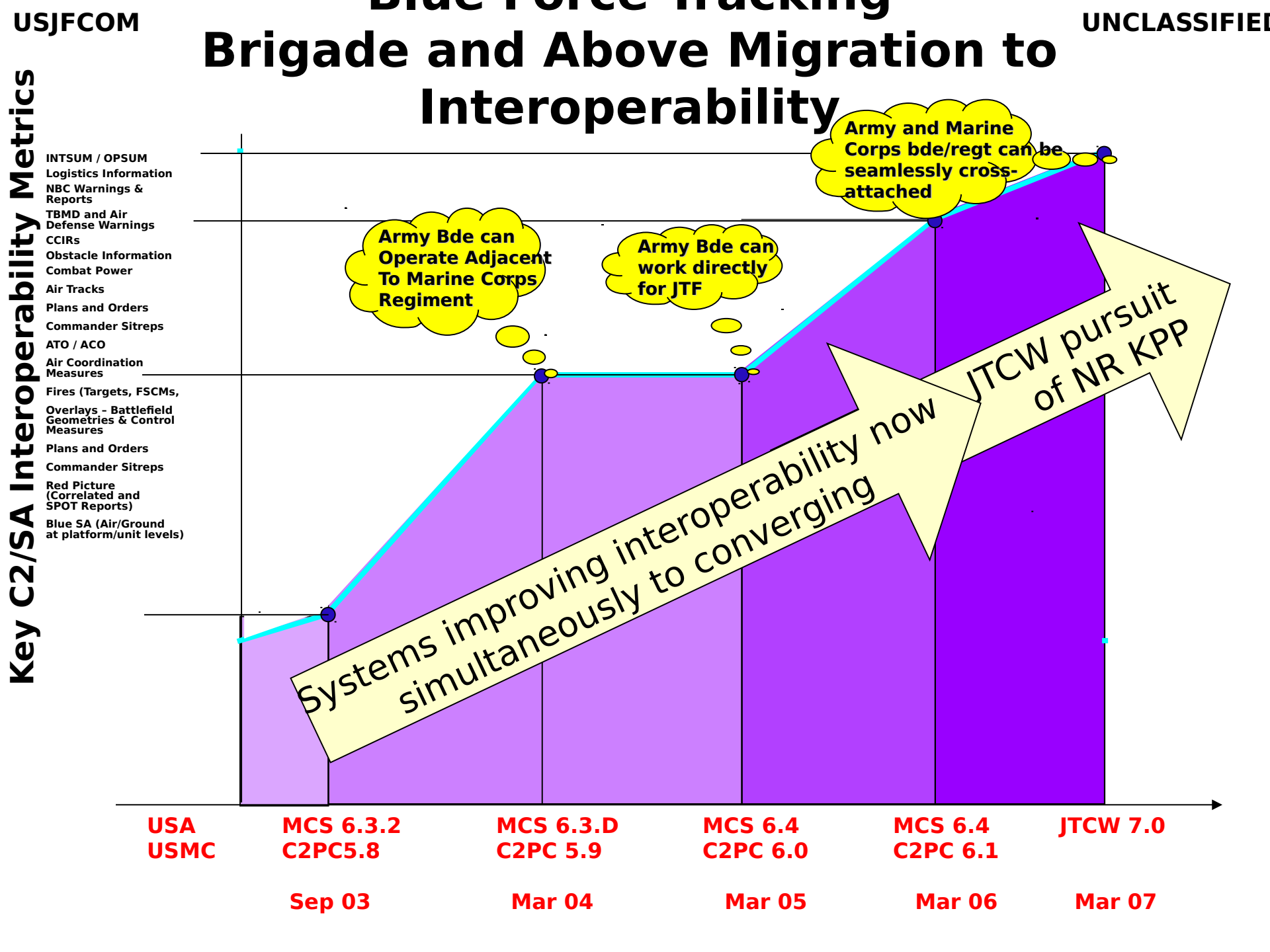
Informing the next step – Real Time –

Blue Force Tracking Brigade and Above Migration to Interoperability



Speed Kills

- Enemy Situation
- Friendly Capabilities
- Weapons
- Command and Control
- Coalition and Interagency

Speed Kills

- Enemy Situation
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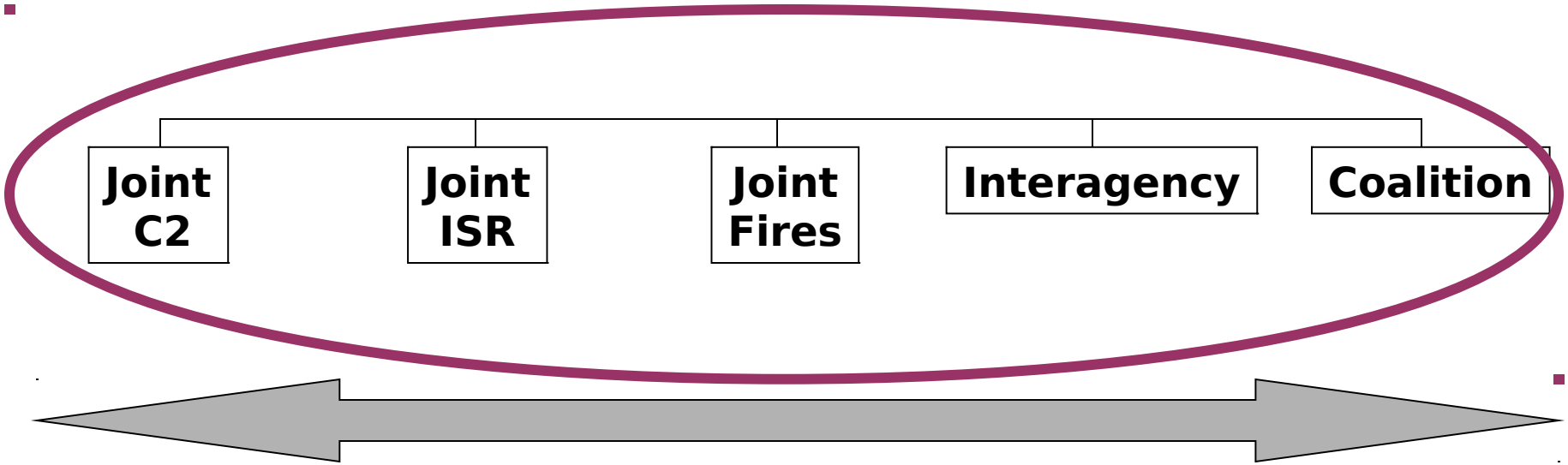
Early Networked Situational Awareness

Dramatically Increases Response Options

Joint BMC2 Context



Joint Battle Management Command and Control spans the continuum of Joint C2, Joint Intelligence Surveillance and Reconnaissance (ISR), Joint Fires, Interagency, and Coalition

Net-Centric Operations

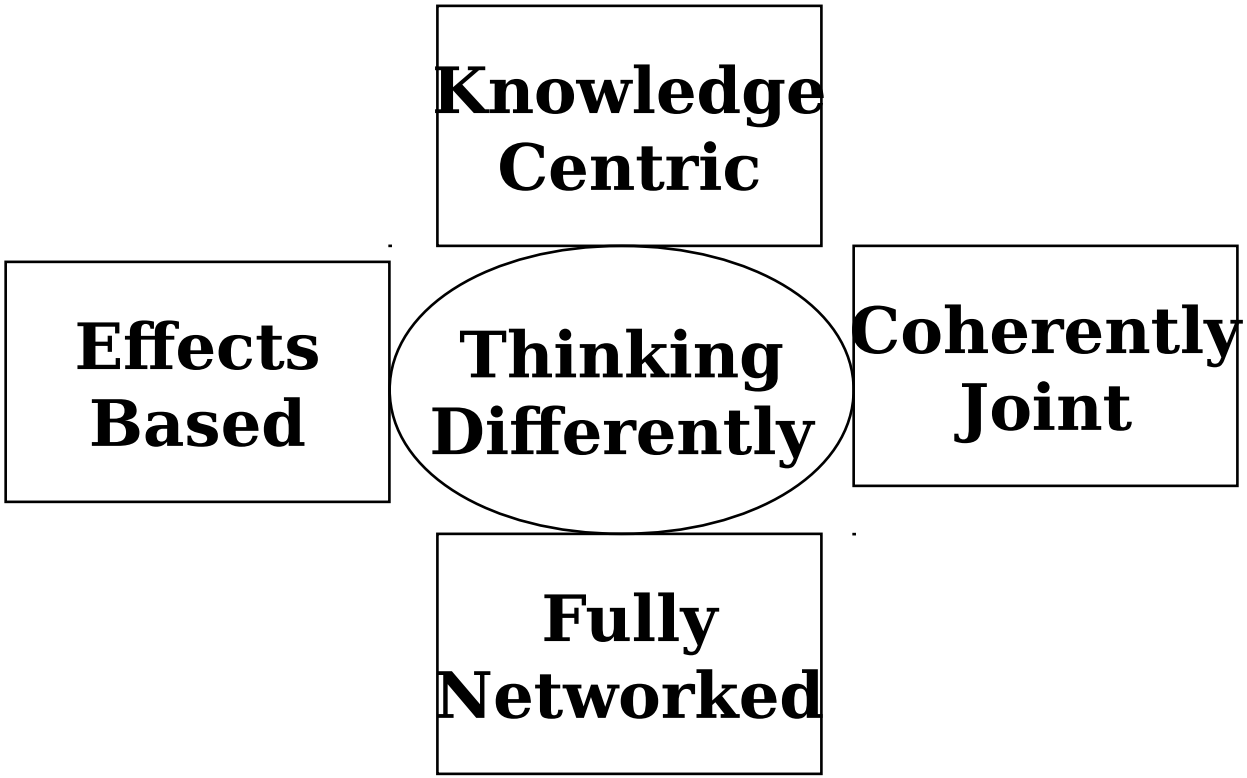
An information superiority concept of operations

- ✓ **Effects Based Operations**
- ✓ **Coherently Joint**
- ✓ **Fully Networked Decision makers, Shooters, Sensors and Systems**
- ✓ **Shared Real Time Situational Awareness**
- ✓ **Increased Speed of Command**
- ✓ **Information/Knowledge Superiority**
- ✓ **Supports Synchronized Non-contiguous Operations**

Enabling Decision Superiority - - but more so

Transforming How We Think and Operate

Legacy systems will not meet this challenge!



Enabling Networked

and Experimentation Strategy (FY

- Leverage Combatant Commander Exercises and Operations
- Leverage Service Sponsored Wargames and Seminars

FY 04 FY 05 FY 06

Joint Prototype Path

- **Field the Standing Joint Force Headquarters (SJFHQ) – including the enabling concepts for developing transformational joint command and control**
- **Deliver rapid, prototyping of capabilities to improve joint warfighting now**

FY 01

Unified Vision

Millennium Challenge

Operational Lessons Learned

Include our Combatant Commands, Services, Defense Agencies and Multinational partners; collaborate in experimentation activities

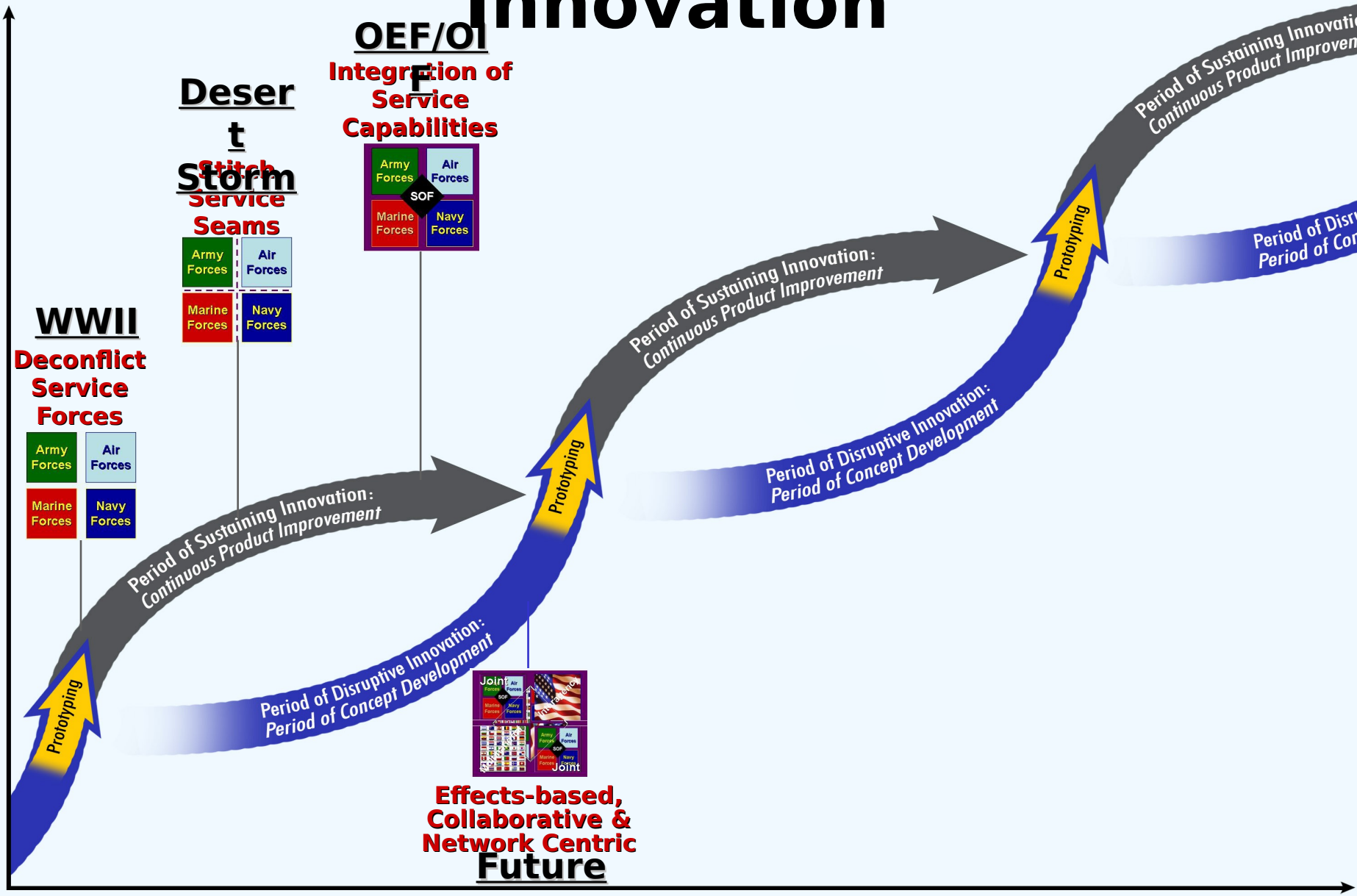
Joint Concept Development Path

FY 04 FY 05 FY 06

- **Provide actionable recommendations from experimentation results to senior leaders to inform options for future force investments**

- Leverage Combatant Commander Exercises and Operations
- Leverage Service Sponsored Wargames and Seminars

Delivering Innovation



MANAGEMENT INITIATIVE DECISION 912

HIGHLIGHTS

Expands USJFCOM responsibility for:

- Strengthening Department's fielding of Joint Battle Management Command and Control (JBMC2) capabilities
- Leading Combatant Commanders in development of joint doctrine, concepts, mission/capability requirements for Joint BMC2
- Coordinating JBMC2 capabilities for joint integration and interoperability with the Joint Requirements Oversight Council (JROC)
- Direct oversight and directive authorities for selected DoD programs and initiatives

What the Warfighter Needs

- **An integrated, interoperable, and networked joint force:**
  - that will insure common shared situational awareness
  - that will allow fused, precise and actionable intelligence
  - that will support coherent distributed and dispersed operations, including forced entry into anti-access or area-denial environments
  - that will ensure decision superiority enabling more agile, more lethal, and survivable joint operations

Transformation Leaders in JBMC2

- **Standing Joint Force Headquarters**
- **Collaborative Information Environments**
- **Deployable Joint Command and Control**
- **Netted Joint Forces**
- **Integrated Joint Fires**
- **Joint National Training Capability (JNTC)**
- **Advanced Concepts**
  - Effects Based Operations (EBO),

Attacking the Problem on Two Fronts

#1 – Improve interoperability to the tactical level: *JBMC2 Roadmap* (to include necking-down BMC2 apps)

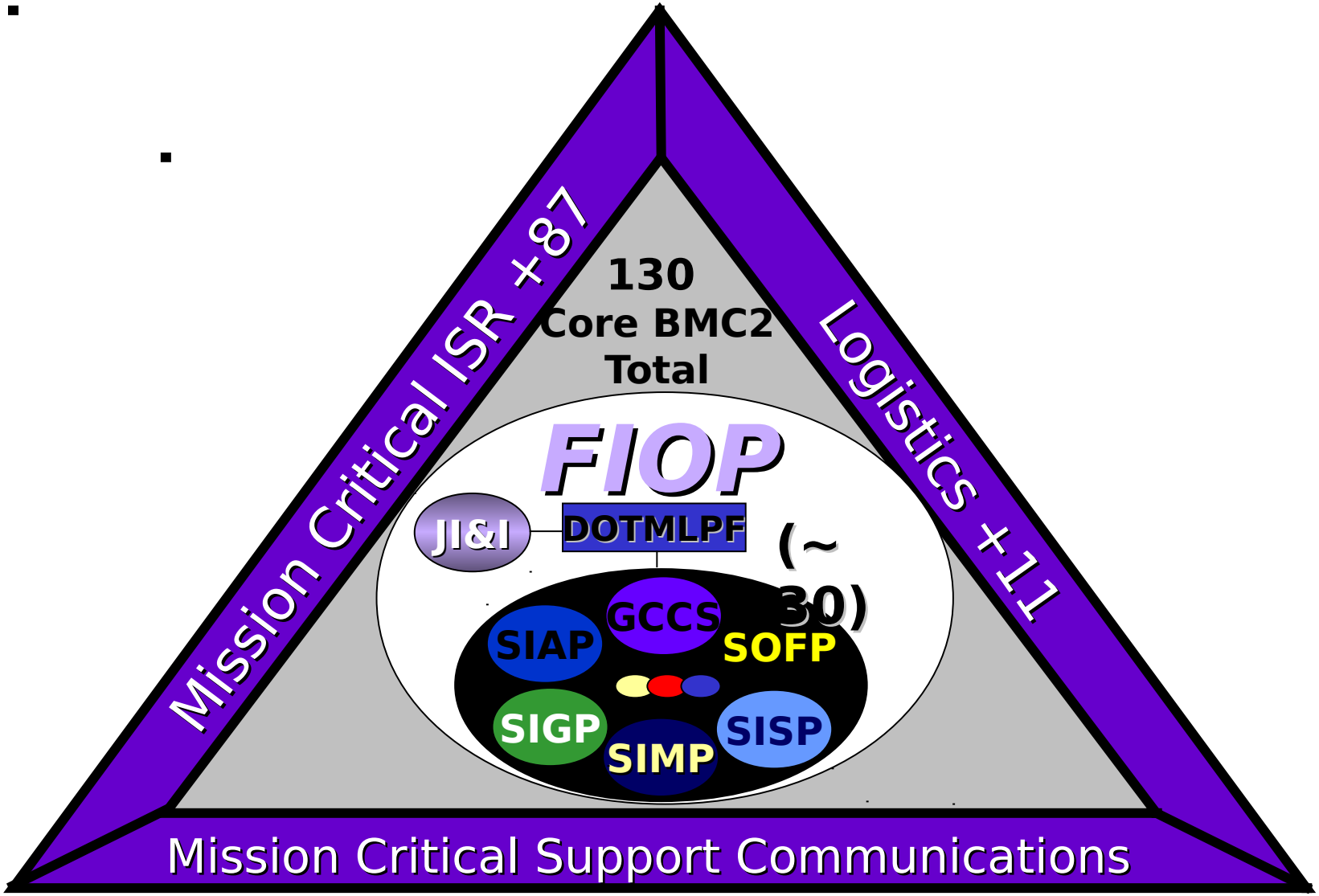
 # 2 – Global Information Grid (GIG) / Net-centric Vision

Achieving Net-Centric "Operations"

Policy	Governance	Architectures	Standards	Networks	Functional Capability Balance
• Original GIG envisioned as overarching top down (CIO driven) architecture • New GIG focused on Net-Centric standards and related policy	In Place & Evolving • DAB • JROC • CIO Board • MID 912	• Must be Joint Warfighter Driven, (JFCOM and Joint Staff – JCIDS/FCBs process) • AT&L lead for System Views • NII lead for Technical Views (standards) • JTA 6.0	• Critical NII/ Net-Centric Checklist • Need database harmonization • Need Information Assurance	• Bandwidth Expansion (NII Lead)	• For near term make JBMC2 operationally interoperable (FIOP – SIAP, SIGP, FORCEnet, SISP…) • For future leverage NCES for most all functions (applications), but allow for real-time organic warfighter applications

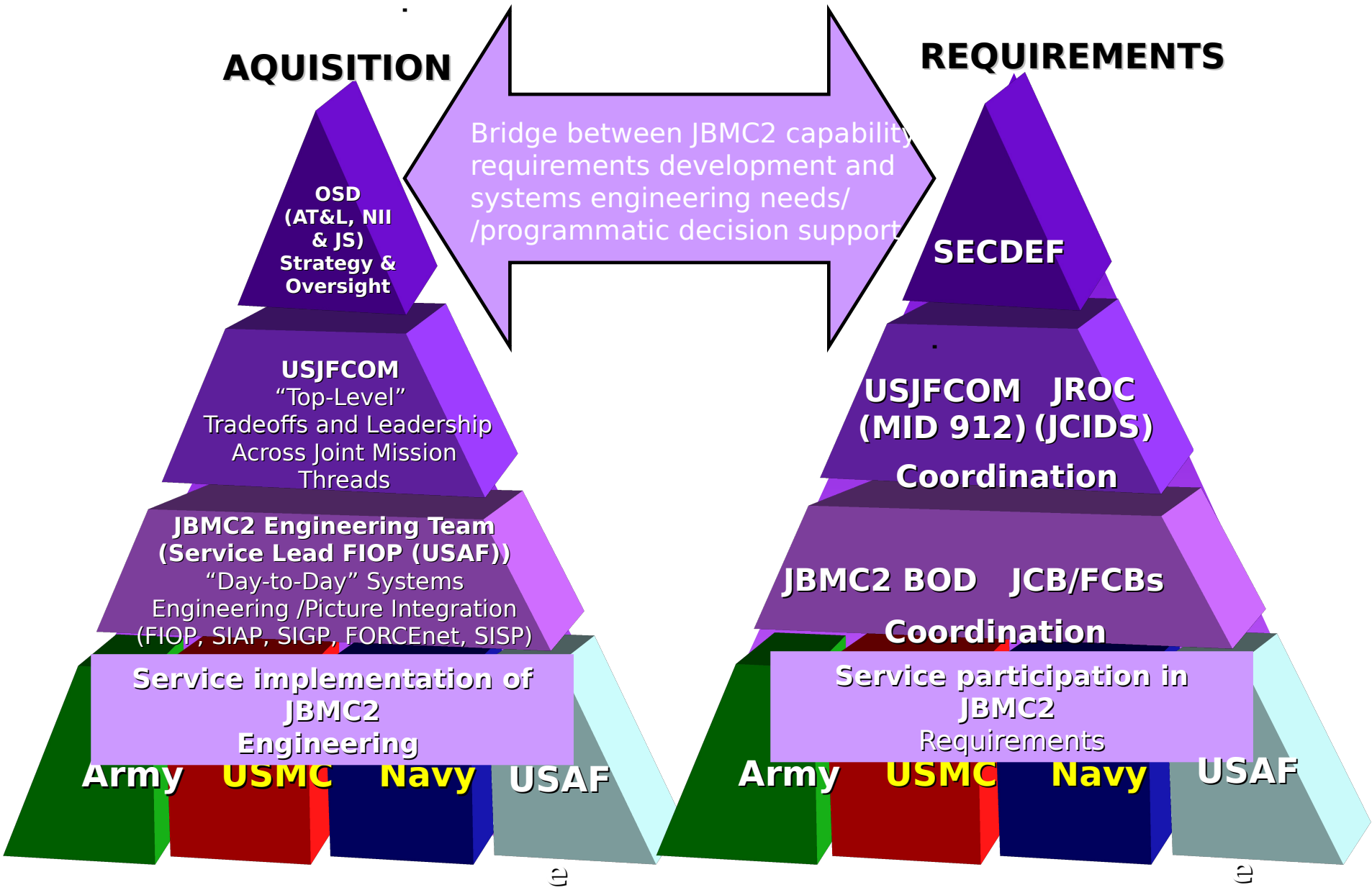
gnitude of the JBMC2 Roadmap System Challe

"Making JBMC2 Interoperable by 2008"



(Total Mission Critical to phase out or make interoperable–360)

int Battle Management Command and Control (JBMC
Management Structure



…Next Steps

- **JBMC2 Roadmap - a living document**
- **Conduct “JBMC2 Capability DAB”**
- **Conduct Net Centric Program Reviews using the Net Centric Checklist**
- **Ensure Services and Agencies implement Roadmap and Checklist decisions in the POM and in Programs**

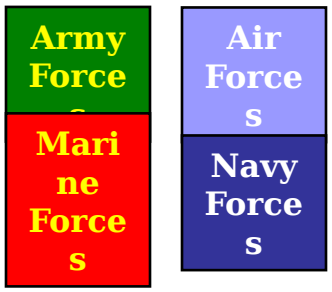
Transforming the Joint Force

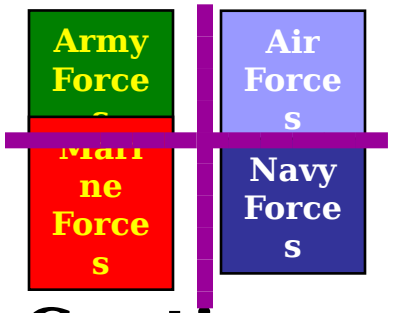
Deconflict Service Forces

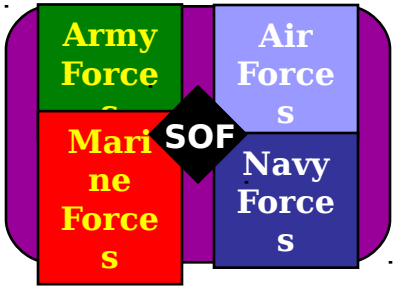
Coordinate Stitch Service Seams

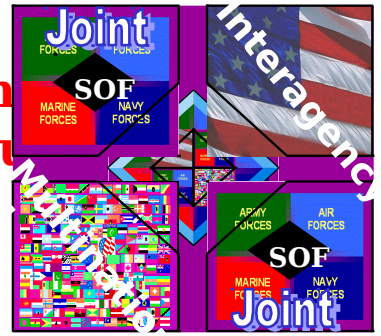
Integration of Service Capabilities

Interdependent Coherently Joint Collaborative Coordination Effects-Based, Network









Continuum of Transformation

Service Context and Organizations ⟷ Joint Context, JTFs & SJFHQ

Service Command & Control ⟷ JBMC2, CIE

Service Training Transformation ⟷ JNTC

Organic Fires ⟷ Joint Fires/JTAC

Service Lessons Learned ⟷ JLL

Summary

- **Interoperability and integration are fundamental to effective joint operations**
- **Both current and future requirements must be considered and synchronized**
- **New “top down” requirements process and new paradigm for JBMC2 are steps in the right direction…..but they must be given time to take root**

Back ups

Guiding Definitions

- Interoperability: The ability of systems, units, or forces to provide services to and accept services from other systems, units or forces and to use the services exchanged to enable them to operate effectively together. (JP 0-2)

- Integration: The arrangement of military forces and their actions to create a force that operates by engaging as a whole. (JP 0-2)

- Joint: Activities, operations and organizations, etc., in which elements of two or more military Departments participate (JP 0-2).

- Joint Force: A force composed of significant elements (assigned or attached) of two or more Military Departments operating under a single joint force commander. (JP 0-2)

Interoperability is key to Joint Force Integration

JBMC2 Mandate

Secretary of Defense directed expanded responsibilities for USJFCOM to improve the Department of Defense ability to field Joint Battle Management Command and Control capabilities (MID 912)

"Strengthens the Department's fielding of Joint Battle Management Command and Control capabilities by improving the Department's ability to organize, train, and equip joint forces."

Transforming How We Think and Operate

Legacy systems will not meet this challenge!

- Effects-Based Operations (EBO)
- Information Operations (IO)
- Force Projection (JDPO)
- Joint Tactical Actions (JTA)

Effects Based

Knowledge Centric

- Operational Net Assessment (ONA)
- Joint Intel, Surveillance and Reconnaissance (JISR)
- Intel Transformation
- Decision Superiority

Coherently Joint

Thinking Differently

- **Networked C2 (JBMC2)**
- Distributed Common Ground Surface/System (DCGS)
- Global Information Grid (GIG-BE)
- Collaborative Info Environment (CIE)
- Net-Centric Enterprise Services (NCES)

Fully Networked

- Standing Joint Force Headquarters (SJFHQ)
- Joint Interagency Coordination Group (JIACG)
- Multinational Info Sharing (MNIS)

Enabling Networked